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Ju-Ho Lee

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EXAMINER

BATISTA, MARCOS

ART UNIT

PAPER NUMBER

2617

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10/14/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/577,919 | <b>Applicant(s)</b><br>LEE ET AL. |  |
|                              | <b>Examiner</b><br>MARCOS BATISTA    | <b>Art Unit</b><br>2617           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Action is in response to Applicant's amendment filed on 06/24/2009. Claims 1-9 are still pending in the present application. This Action is made **Non-FINAL**.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/24/2009 has been entered.

#### ***Response to Arguments***

3. Applicant's arguments filed on 06/24/2009 regarding "transmitting an E-TFCI to a Node B by a UE before transmitting an E-DCH corresponding to the E-TFCI" have been fully considered but they are not persuasive.

After carefully revising the office action pertinent to the present response and remarks, the following main point(s) have been identified:

The Applicant states that the cited prior art fail to teach or suggest "transmitting an E-TFCI to a Node B by a UE before transmitting an E-DCH corresponding to the E-TFCI" (refer to page 4 lines 19-21 of the Applicant's remarks).

Regarding Applicant's argument, Malkamaki at paragraph 41 discloses that the conventional TFCI can be used to decode the E-DCH, but that the new E-TFCI is required in order to get the full delay benefit. See Malkamaki beginning of paragraph 41

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*"It is also possible to use the normal TFCI information to decode the E-DCH(s), too.*

*Since the normal TFCI is interleaved over 10 ms, the decoding of the E-DCH(s) in this case can only be started after the TFCI has been decoded. This typically causes some*

*extra delay. In order to get the full delay benefit of the shorter TTI (e.g., 2 ms), a new*

*TFCI, called, e.g., E-TFCI is required, since the normal TFCI is available only after 10 ms (TTI of the conventional DCH)."* The above statement suggests that the E-TFCI is

needed before the E-DCH can be decoded. This means that the E-TFIC, which carries information about the E-DCH, has to be transmitted before the E-DCH. And Malkamaki

at the bottom of paragraph 41 confirms that by making sure that the E-TFCI is

transmitted before the E-DCH by placing it in the first bits of each half slot within the

same frame and since the frame is transmitted serially, those bits at the beginning of the

frame are transmitted first. See Malkamaki bottom of paragraph 41 *"As an option, E-*

*TFCI can be time-multiplexed with E-DCH, e.g., as a new TrCH terminated in a Node B*

*as shown by the dashed line in FIG. 3. Thus the E-TFCI bits would replace some of the*

*PH bits. The E-TFCI bits could, e.g., always be the first bits in each half slot."*

Therefore, the argued features are written such that they read upon the cited reference(s).

4. Applicant's arguments with respect to claim 1 regarding "adjusting an uplink pilot power boosting amplitude by the UE according to the ETFCI" have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

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over Malkamaki et al. (US 20040228315 A1), hereafter "Malkamaki," in view of Hwang et al. (US 20020115464 A1), hereafter "Hwang."

Consider claim 1, Malkamaki discloses a method for supporting pilot boost to the uplink dedicated channels in the Wideband Code Division Multiple Access system comprising steps of (**see fig. 1, pars. 0023 and 0028**): transmitting E-TFCI to a Node B by a UE before transmitting an E-DCH corresponding to the E-TFCI (**see pars. 0044 and 0048**).

Malkamaki discloses the invention of claim 1 above, but does not particular refer to adjusting an uplink pilot power boosting amplitude by the UE according to the E-TFCI and performing a uplink inner loop power control by the Node B according to a measured SIR, a target preset by the inner loop power control and a pilot boost amplitude resulted from the E-TFCI.

Hwang, in analogous art, teaches adjusting an uplink pilot power boosting amplitude by the UE according to the E-TFCI (**see pars 0021 lines 1-5, 0089 lines 1-6, 0090 lines 1-18 and 91 lines 11-16** - where Hwang teaches a Node B transmitting pilot signal to the UE which includes TFCI for a downlink shared channel (DSCH). The UE measures the channel conditions and transmits back the measurement to the Node B for power adjustment) and performing a uplink inner loop power control by the Node B according to a measured SIR, a target preset by the inner loop power control and a pilot boost amplitude resulted from the E-TFCI (**see pars 0128 lines 1-13 and 0129 lines 15-23**).

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Malkamaki and have it include adjusting an uplink pilot power boosting amplitude by the UE according to the E-TFCI and performing a uplink inner loop power control by the Node B according to a measured SIR, a target preset by the inner loop power control and a pilot boost amplitude resulted from the E-TFCI, as taught by Hwang. The motivation would have been in order to provide more accurate channel quality information to the UE for determining handoff (see par. 0021 lines 1-12).

Consider claim 2, Malkamaki as modified by Hwang, teaches claim 1 above. Malkamaki also teaches wherein the UE transmits a D-TFCI and a DCH corresponding to the D-TFCI synchronously (see par. 0022 lines 10-13).

Consider claim 3, Malkamaki as modified by Hwang, teaches claim 1 above. Malkamaki also teaches wherein the timing relationship on transmitting the E-TFCI in advance must satisfy that the ending time of E-TFCI's TTI must be earlier than the starting time of TTI of the E-DCH corresponding to the E-TFCI (see par. 0037).

Consider claim 8, Malkamaki as modified by Hwang, teaches claim 1 above. Malkamaki also teaches wherein the UE transmits the D-TFCI to the Node B before the transmission of the DCH corresponding to the D-TFCI (see pars. 0022 and 0037).

Consider claim 9, Malkamaki as modified by Hwang, teaches claim 1 above. Malkamaki also teaches wherein the UE transmits the TFCI which is generated by encoding the D-TFCI and the E-TFCI before the transmission of the EDCH corresponding to the E-TFCI (see fig. 3, par. 0041).

9. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. (US 20040228315 A1), hereafter "Malkamaki," in view of Hwang et al. (US 20020115464 A1), hereafter "Hwang," further in view of Tirola et al. (US 20050041626 A1), hereafter "Tirola."

Consider claim 4, Malkamaki as modified by Hwang teaches claim 1 above. Malkamaki, however, does not particular refer to wherein when the uplink inner loop power control is performed by the Node B, if  $SIR_{mea} < SIR_{target} + \Delta P_{pilot}$ , the Node B sends a TPC UP command to demand the UE to increase the transmitting power; otherwise, it sends a TPC DOWN command to demand the UE to decrease the transmitting power.

Tirola teaches wherein when the uplink inner loop power control is performed by the Node B, if  $SIR_{mea} < SIR_{target} + \Delta P_{pilot}$ , the Node B sends a TPC UP command to demand the UE to increase the transmitting power; otherwise, it sends a TPC DOWN command to demand the UE to decrease the transmitting power (see pars. 0007 and 0029).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Malkamaki as modified by Hwang and have it include wherein when the uplink inner loop power control is performed by the

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Node B, if  $SIR_{mea} < SIR_{target} + \Delta P_{pilot}$ , the Node B sends a TPC UP command to demand the UE to increase the transmitting power; otherwise, it sends a TPC DOWN command to demand the UE to decrease the transmitting power, as taught by Tirola. The motivation would have been in order to decrease signal interference (see par. 0045).

Consider claim 5, Malkamaki as modified by Hwang teaches claim 1 above.

Malkamaki, however, does not particular refer to wherein the UE calculates a transmitting power of the pilot according to the E-TFCI and the equation below

$$P_{sub.pilot} = P_{sub.c} + \Delta P_{sub.pilot}$$

Tirola teaches wherein the UE calculates a transmitting power of the pilot according to the E-TFCI and the equation below

$$P_{sub.pilot} = P_{sub.c} + \Delta P_{sub.pilot} \text{ (see par. 0040 lines).}$$

The motivation would have been in order to decrease signal interference (see par. 0045).

Consider claim 6, Malkamaki as modified by Hwang teaches claim 1 above.

Malkamaki, however, does not particular refer to wherein a RNC notifies the Node B through an Iub signaling of the pilot power boosting amplitude corresponding to a reference E-TFCI, and notifies the UE through a RRC signaling of the pilot power boosting amplitude corresponding to the reference E-TFCI.

Tirola teaches wherein a RNC notifies the Node B through an Iub signaling of the pilot power boosting amplitude corresponding to a reference E-TFCI, and notifies the UE through a RRC signaling of the pilot power boosting amplitude corresponding to

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the reference E-TFCI (see fig. 2, par. 0008). The motivation would have been in order to decrease signal interference (see par. 0045).

Consider claim 7, Malkamaki as modified by Hwang teaches claim 1 above. Malkamaki, however, does not particular refer to wherein the Node B and the UE calculate the pilot power boosting amplitudes corresponding to other E-TFCIs according to that corresponding to the reference E-TFCI.

Tirola teaches wherein the Node B and the UE calculate the pilot power boosting amplitudes corresponding to other E-TFCIs according to that corresponding to the reference E-TFCI (see fig. 2, par. 0029). The motivation would have been in order to decrease signal interference (see par. 0045).

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Marcos Batista, whose telephone number is (571) 270-5209. The Examiner can normally be reached on Monday-Thursday from 8:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached at (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*/Marcos Batista/*  
Examiner

*/Rafael Pérez-Gutiérrez/*  
Supervisory Patent Examiner, Art Unit 2617

10/07/2009